What is claimed is:

1. A liquid treatment system, comprising:

a housing configured to be mounted at the end of a faucet;

a filter disposed within the housing to remove particulates from a flow of liquid through the housing;

an ultraviolet light source disposed within the housing to decontaminate the flow of liquid; and

a hydro-generator disposed within the housing and configured to be rotated by the flow of liquid to generate power for the ultraviolet light source.

2. The liquid treatment system of claim 1, further comprising a processor that is configured to energize the ultraviolet light source with power generated by the hydro-generator only when the rotational speed of the hydro-generator is within a determined range.

3. The liquid treatment system of claim 2, wherein the determined range is a range capable of initially energizing the ultraviolet light source within a desired range of thermionic temperature.

4. The liquid treatment system of claim 1, further comprising a nozzle and only one manifold disposed in the housing, the manifold comprising a first passageway configured to channel the flow of liquid to the filter, a second passageway configured to channel the flow of liquid from the filter to the ultraviolet light source and a nozzle keeper configured to engage the nozzle, the nozzle configured to channel the flow of liquid from the ultraviolet light source to the hydro-generator as an extruded stream of liquid to induce rotation.

5. The liquid treatment system of claim 1, wherein the ultraviolet light source comprises up to about 25% neon gas and up to about 75% argon gas.

6. The liquid treatment system of claim 1, further comprising a nozzle disposed in the housing, the nozzle configured to produce an extruded stream of liquid from the flow of liquid, the extruded stream of liquid directable at the hydro-generator to

induce rotation.

7. The liquid treatment system of claim 6, wherein the hydro-generator includes a generator housing having a plurality of paddles mounted perpendicular to an outer surface of the generator housing and a centering shaft extending through the generator housing, wherein the generator housing is rotatable around the centering shaft in response to receipt by the paddles of the extruded stream of liquid.

8. The liquid treatment system of claim 1, wherein the hydro-generator comprises a rotor and a stator, the rotor is a permanent magnet that is coupled with the generator housing and the stator is non-rotatably mounted on the centering shaft.

9. The liquid treatment system of claim 2, further comprising a switch, wherein only the switch is coupled between hydro-generator and the UV light source, and the switch is configured to be enabled by the processor to directly supply power from the hydro-generator to the UV light source.

10. The liquid treatment system of claim 2, further comprising a switch and a ballast, wherein the switch is coupled between the hydro-generator and the ballast, and the ballast is coupled with the ultraviolet light source, wherein the switch is configured to be enabled by the processor to supply power from the hydro-generator to the ultraviolet light source.

11. The liquid treatment system of claim 1, wherein the filter comprises activated carbon.

12. A liquid treatment system, comprising:

a housing that includes a first compartment and a second compartment both configured to be in liquid communication with a flow of liquid through the housing, and a third compartment configured to remain substantially dry;

a filter disposed within the first compartment, wherein the filter is configured to remove particulate from the flow of liquid through the first compartment;

an ultraviolet dosing system disposed within the third compartment, wherein the ultraviolet dosing system is configured to decontaminate the flow of liquid;

a hydropower generation system configured to operate within the second compartment, wherein the hydropower generation system includes a nozzle and is configured to generate power in response to the flow of liquid being extruded from the nozzle as a stream of liquid into the second compartment; and

only one manifold disposed between the first and second compartments, the manifold comprising a nozzle keeper to engage the nozzle and a plurality of separate passageways formed in the manifold to channel the flow of liquid to the first and second compartments.

13. The liquid treatment system of claim 12, wherein the manifold comprises a first passageway configured to channel the flow of liquid to the filter and a second passageway configured to channel the flow of liquid between the filter and the ultraviolet dosing system.

14. The liquid treatment system of claim 12, wherein the housing is configured to be mounted at the end of a faucet.

15. The liquid treatment system of claim 12, wherein the ultraviolet dosing system comprises a reactor vessel and an ultraviolet light source, the reactor vessel comprises an inlet and an outlet both positioned at one end of the reactor vessel to couple with the manifold and the nozzle, respectively.

16. The liquid treatment system of claim 15, wherein the ultraviolet dosing system further comprises a socket coupled with UV light source, and the manifold comprises a lamp seat to engage the end of the ultraviolet light source opposite the socket.

17. The liquid treatment system of claim 15, wherein the reactor vessel comprises a straight tube, a helical tube and an elbow, the straight tube includes the inlet and extends through the helical tube to be coupled with the elbow at an opposite end of the reactor vessel, the elbow is coupled with the helical tube, wherein the helical tube includes the outlet.

18. The liquid treatment system of claim 12, wherein the housing comprises a cylindrically shaped portion, and the filter, the ultraviolet dosing system and the

manifold are concentrically positioned within the cylindrically shaped portion so that the manifold is positioned between the filter and the ultraviolet dosing system.

19. The liquid treatment system of claim 12, wherein the housing comprises a cylindrically shaped portion and a spherical shaped portion, the filter, the ultraviolet dosing system and the manifold are positioned in the cylindrical shaped portion and the hydropower generation system is disposed in the spherical shaped portion.

20. The liquid treatment system of claim 12, further comprising a switch mechanism configured to detachably couple the housing with the end of a faucet and allow selection of one of a treated and an untreated flow of liquid from the housing.

21. The liquid treatment system of claim 12, wherein the filter comprises activated charcoal.

22. A liquid treatment system, comprising:

a first liquid flow path that provides treated liquid and a second liquid flow path that provides untreated liquid;

a filter configured to be part of the first liquid flow path;

an ultraviolet dosing system configured to be part of the first liquid flow path; and

a power generation module configured to include a first passage that is a portion of the first liquid flow path and a second passage that is a portion of the second liquid flow path,

wherein electric power is to be generated by the power generation module for the ultraviolet dosing system only upon a flow of liquid through the first liquid flow path.

23. The liquid treatment system of claim 22, further comprising a first outlet from the first liquid flow path to discharge treated liquid and a second outlet from the second liquid flow path that is independent of the first outlet to discharge untreated liquid.

24. The liquid treatment system of claim 22, further comprising a processor

configured to monitor the electric power generated by the power generation module, the processor configured to determine a flow rate of liquid through the first liquid flow path as a function of the electric power generated.

25. The liquid treatment system of claim 22, wherein the power generation module comprises a nozzle and a hydro-generator, wherein the hydro-generator rotates within the first liquid flow path in response to the flow of liquid in the first liquid flow path being extruded as a stream of liquid from the nozzle.

26. The liquid treatment system of claim 22, wherein the power generation module comprises a hydro-generator rotationally disposed in the first liquid flow path and the processor is configured to determine a rotational speed of the hydro-generator as a function of the electric power generated and energize the ultraviolet dosing system with the electric power when the rotational speed of the hydro-generator is within a determined range.

27. The liquid treatment system of claim 22, wherein the processor is configured to track usage of the filter and the ultraviolet dosing system as a function of the electric power generated.

28. The liquid treatment system of claim 22, wherein the power generation module includes a rotor and a stator disposed in the first passage, the rotor rotatable around the stator to generate electric power in response to an extruded stream of the flow of liquid within the first passage.

29. The liquid treatment system of claim 22, further comprising a switch mechanism, the switch mechanism configured to toggle between the first and second liquid flow paths.

30. The liquid treatment system of claim 22, wherein the first passage is formed inside an outer housing included in the power generation module and the second passage is formed outside the outer housing.

31. The liquid treatment system of claim 22, further comprising a lever and a

valve core, the valve core having a first cavity forming part of the first liquid flow path and a second cavity forming part of the second liquid flow path, wherein the first and second cavities are separate and independent liquid flow paths that are selectable with the lever.

32. The liquid treatment system of claim 22, wherein the filter comprises activated carbon.

33. A liquid treatment system, comprising:

a manifold of only one-piece construction formed to include a first passageway;

a filter configured to filter a flow of liquid provided through the first passageway;

the manifold formed to include a second passageway configured to channel the flow of liquid that has been filtered away from the filter;

an ultraviolet dosing system configured to directly receive the flow of liquid from the second passageway and decontaminate the flow of liquid;

the manifold comprising a nozzle keeper to engage a nozzle mounted on the manifold, the nozzle configured to directly receive from the ultraviolet dosing system the flow of liquid that has been decontaminated and spray the flow of liquid as an extruded stream of liquid; and

a hydro-generator configured to rotate in response to contact with the extruded stream of liquid and generate electric power to supply the ultraviolet dosing system.

34. The liquid treatment system of claim 33, wherein the filter and the ultraviolet dosing system are positioned concentrically on opposite sides of the manifold.

35. The liquid treatment system of claim 33, wherein the hydro-generator comprises a centering shaft and a generator housing that is rotatable around the centering shaft.

36. The liquid treatment system of claim 35, wherein the housing includes a plurality of paddles extending outwardly substantially perpendicular to a surface of the housing, the paddles configured to be struck by the extruded stream of liquid to

induce rotation.

37. The liquid treatment system of claim 33, wherein the filter comprises activated carbon.

38. A method of treating liquid with a liquid treatment system, the method comprising:

initiating a flow of liquid through a liquid treatment system;

filtering the flow of liquid;

rotating a hydro-generator with the flow of liquid to generate electric power;

monitoring the electric power to determine the revolutions-per-minute of the hydro-generator;

energizing an ultraviolet light source with the electric power generated by the hydro-generator only when the revolutions-per-minute of the hydro-generator enters a determined range; and

subjecting the flow of liquid to ultraviolet energy generated by the ultraviolet light source.

39. The method of claim 38, further comprising indicating when the flow of liquid has received sufficient dose as a function of the electric power and energization of the ultraviolet light source.

40. The method of claim 38, wherein energization of the ultraviolet light source comprises supplying the electric power as alternating current power directly from the hydro-generator to the ultraviolet light source without a ballast.

41. The method of claim 38, wherein energization of the ultraviolet light source comprises supplying the electric power from the hydro-generator as direct current power to a ballast configured to energize the ultraviolet light source.

42. The method of claim 38, wherein energization of the ultraviolet light source comprises raising a thermionic temperature of a gas included in the ultraviolet light source to be within a determined thermionic temperature range.

43. The method of claim 38, wherein monitoring the electric power comprises energizing a processor with the electric power generated by the hydro-generator to monitor the electric power.

44. The method of claim 38, wherein monitoring the electric power comprises tracking the usage of the filter and the usage of the ultraviolet light source as a function of the electric power.

45. The method of claim 38, wherein rotating the hydro-generator comprises concentrically rotating a housing that includes a permanent magnet on an inner wall of the housing around a stator mounted on a stationary centering rod that extends through the housing.